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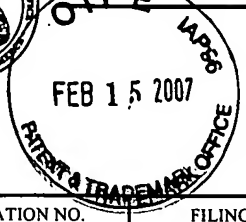

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,322	02/13/2004	James Stuart Wight	ICE-029	5243

43831 7590 01/25/2007

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EXAMINER	
HAROON, ADEEL	
ART UNIT	**PAPER NUMBER**
2618	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.	Applicant(s)	
10/779,322	WIGHT, JAMES STUART	
Examiner	**Art Unit**	
Adeel Haroon	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to Amendment filed on date: 11/2/06. Claims 1-25 are still pending.

Response to Arguments

2. Applicant's arguments filed 11/2/06 have been fully considered but they are not persuasive.

The applicant argues that Kim does not disclose, "amplifying each near-constant envelope signal in inverse proportion to its corresponding control signal". The examiner respectfully disagrees with this interpretation. In paragraph 37, Kim teaches "an output level of the LINC power transmitter is adjusted by controlling quadrature biases output" and also teaches "to adjust the output power of the LINC power transmitter and to maximize the efficiency of the LINC power transmitter at any given output level by controlling the bias signals". Even though Kim never explicitly uses the term "inverse proportion", it is considered inherent that the power must be adjusted inverse proportionally to the magnitude of the respective signals in order for balanced outputs

and to maximize efficiency. Therefore, the examiner believes that Kim discloses the disputed limitation.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (U.S. 2004/0185805).

With respect to claim 1, Kim et al. disclose a method for amplifying a signal with first decomposing as signal into a plurality of near constant envelop signals with element number 102 (Paragraph 32). Kim et al. disclose producing a plurality of control signals with element number 106, with each control signal corresponding to the magnitude of a respective constant envelope signal (Paragraph 37). Kim et al. also disclose amplifying each near-constant envelope signal in inverse proportion to its corresponding control signal with element numbers 312 and 314 (Paragraph 34). Kim

et al. further disclose combining the plurality of inversely amplified near-constant envelope signals to produce an amplified output signal with element number 322 (Paragraph 29).

With respect to claim 2, Kim et al. disclose LINC signal decomposition (Paragraph 26).

With respect to claim 4, Kim et al. disclose a "conventional" style combiner, element number 322 (Paragraph 29).

With respect to claim 5, Kim et al. disclose variable gain amplifiers, element numbers 312 and 314 (Paragraph 37).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (U.S. 2004/0185805) in view of Saed (U.S. 2005/0003770).

With respect to claim 3, the method of Kim et al. is described above in the discussion of claim 1. Kim et al. do not expressly disclose a Chireix style combiner.

However, Saed discloses a method of decomposing a signal, amplifying the separate signals, and then combining the signals with Chireix style combiner, element number 100 (Paragraph 35). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to use a Chireix style combiner as taught by Saed in the method of Kim et al. in order to incorporate that specific combiner into the method.

7. Claims 6, 7, 9-11, 13-15, 17-19, 21-23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (U.S. 2004/0185805) in view of Raab (U.S. 6,256,482).

With respect to claim 6, Kim et al. disclose a system for amplifying a signal with decomposing as signal into a plurality of near constant envelop signals with element number 102 (Paragraph 32). Kim et al. disclose producing a plurality of control signals with element number 106, with each control signal corresponding to the magnitude of a respective constant envelope signal (Paragraph 37). Kim et al. also disclose a plurality of variable amplification means, element numbers 312 and 314, for each constant envelope signal (Paragraph 34). Kim et al. further disclose a means for combining signals, element number 322 (Paragraph 29). Kim et al. teaches that the bias of each variable amplification means is adjusted to amplify each near-constant envelope signal in inverse proportion to its respective control signal to produce a corresponding amplified constant envelope signal; and wherein the combining means combines the plurality of amplified constant envelope signals (Paragraph 37). Even though Kim et al.

teaches adjusting the gain of the amplifiers, Kim et al. doe not expressly disclose a means for measuring the amplitude of each near constant envelope signals. However, Raab discloses a system to amplify envelope signals in figure 6. Raab teaches a means for measuring the amplitude of an envelope signal, element numbers 41 and 42, and adjusting the gain of a variable amplifier according to that information (Column 4, lines 43-62). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Raab's amplitude measuring technique in the system of Kim et al. in order to control the gain of the signals more precisely according to their relative amplitude levels.

With respect to claim 7, Kim et al. disclose LINC signal decomposition (Paragraph 26).

With respect to claim 9, Kim et al. disclose a "conventional" style combiner, element number 322 (Paragraph 29).

With respect to claim 10, Kim et al. disclose a device for amplifying a signal with a signal decomposer, element number 102, that fragments a signal into a plurality of near-constant envelope signals (Paragraph 32). Kim et al. disclose a plurality of adjustable gain amplifiers, element numbers 312 and 314 that are controlled by control signals thereby producing an amplified constant envelope signal (Paragraph 37). Kim et al. also disclose a combiner, element number 322, that combines the plurality of amplified constant envelope signals (Paragraph 29). Even though Kim et al. teaches adjusting the gain of the amplifiers, Kim et al. doe not expressly disclose envelope detectors for measuring the amplitude of each near constant envelope signals.

However, Raab discloses a system to amplify envelope signals in figure 6. Raab teaches the use of envelope detector, element numbers 41 and 42, for measuring the amplitude of an envelope signal and adjusting the gain of a variable amplifier according to that information (Column 4, lines 43-62). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Raab's amplitude measuring technique in the system of Kim et al. in order to control the gain of the signals more precisely according to their relative amplitude levels.

With respect to claim 11, Kim et al. disclose LINC signal decomposition (Paragraph 26).

With respect to claim 13, Kim et al. disclose a "conventional" style combiner, element number 322 (Paragraph 29).

With respect to claim 14, Kim et al. disclose a method for producing an amplified signal with decomposing a signal into a plurality of near-constant envelope signals (Paragraph 32). Kim et al. also disclose inputting the first and second near-constant envelope signals into first and second adjustable gain amplifiers, element numbers 312 and 314, respectively and amplifying according to control signals by adjusting the bias of each amplifier in inverse proportion to a corresponding control signal (Paragraph 37). Kim et al. further discloses combining the plurality of amplified constant envelope signals Paragraph 29). Even though Kim et al. teaches adjusting the gain of the amplifiers, Kim et al. doe not expressly disclose envelope detectors for measuring the amplitude of each near constant envelope signals. However, Raab discloses a system to amplify envelope signals in figure 6. Raab teaches the use of envelope detector,

element numbers 41 and 42, for measuring the amplitude of an envelope signal and adjusting the gain of a variable amplifier according to that information (Column 4, lines 43-62). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Raab's amplitude measuring technique in the system of Kim et al. in order to control the gain of the signals more precisely according to their relative amplitude levels.

With respect to claim 15, Kim et al. disclose LINC signal decomposition (Paragraph 26).

With respect to claim 17, Kim et al. disclose a "conventional" style combiner, element number 322 (Paragraph 29).

With respect to claim 18, Kim et al. disclose a device for amplifying signals with a signal decomposer, element number 102, having an input terminal and a plurality of output terminals (Paragraph 32). Kim et al. also disclose a plurality of adjustable gain amplifiers, element numbers 312 and 314, each adjustable gain amplifier having an input terminal, a control terminal, and an output terminal, whereby its input terminal is in electrical communication with a respective output terminal of the signal decomposer (Paragraph 37). Kim et al. disclose producing a plurality of control signals with element number 106, with each control signal corresponding to the magnitude of a respective constant envelope signal and adjusting the gain in inverse proportions to the signals (Paragraph 37). Kim et al. further discloses a combiner, element number 322, having a plurality of input terminals and an output terminal, wherein each input terminal is in electrical communication with the output terminal of a respective adjustable gain

amplifier (Paragraph 29). Even though Kim et al. teaches adjusting the gain of the amplifiers, Kim et al. doe not expressly disclose envelope detectors and amplifiers. However, Raab discloses a system to amplify envelope signals in figure 6. Raab teaches the use of envelope detector, element number 41, and amplifier, element number 42, that are connected to the input of the signal and are connected to the control terminal of an adjustable gain amplifier (Column 4, lines 43-62). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Raab's amplitude measuring technique in the system of Kim et al. in order to control the gain of the signals more precisely according to their relative amplitude levels.

With respect to claim 19, Kim et al. disclose LINC signal decomposition (Paragraph 26).

With respect to claim 21, Kim et al. disclose a "conventional" style combiner, element number 322 (Paragraph 29).

With respect to claim 22, Kim et al. disclose a device for amplifying signals with a signal decomposer, element number 102, having an input terminal and a plurality of output terminals (Paragraph 32). Kim et al. also disclose a plurality of adjustable gain amplifiers, element numbers 312 and 314, each adjustable gain amplifier having an input terminal, a control terminal, and an output terminal, whereby its input terminal is in electrical communication with a respective output terminal of the signal decomposer (Paragraph 37). Kim et al. disclose producing a plurality of control signals with element number 106, with each control signal corresponding to the magnitude of a respective constant envelope signal and adjusting the gain in inverse proportions to the signals

(Paragraph 37). Kim et al. further discloses a combiner, element number 322, having a plurality of input terminals and an output terminal, wherein each input terminal is in electrical communication with the output terminal of a respective adjustable gain amplifier (Paragraph 29). Even though Kim et al. teaches adjusting the gain of the amplifiers, Kim et al. doe not expressly disclose envelope detectors and amplifiers. However, Raab discloses a system to amplify envelope signals in figure 6. Raab teaches the use of envelope detector, element number 41, and amplifier, element number 42, that are connected to the input of the signal and are connected to the control terminal of an adjustable gain amplifier (Column 4, lines 43-62). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Raab's amplitude measuring technique in the system of Kim et al. in order to control the gain of the signals more precisely according to their relative amplitude levels.

With respect to claim 23, Kim et al. disclose LINC signal decomposition (Paragraph 26).

With respect to claim 25, Kim et al. disclose a "conventional" style combiner, element number 322 (Paragraph 29).

8. Claims 8, 12, 16, 20, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (U.S. 2004/0185805) and Raab (U.S. 6,256,482) further in view of Saed (U.S. 2005/0003770).

With respect to claim 8, the modified system of Kim et al. and Raab is described above in the discussion of claim 6. Kim et al. do not expressly disclose a Chireix style combiner. However, Saed discloses a method of decomposing a signal, amplifying the separate signals, and then combining the signals with Chireix style combiner, element number 100 (Paragraph 35). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to use a Chireix style combiner as taught by Saed in the modified system of Kim et al. and Raab in order to incorporate that specific combiner into the method.

With respect to claim 12, the modified system of Kim et al. and Raab is described above in the discussion of claim 10. Kim et al. do not expressly disclose a Chireix style combiner. However, Saed discloses a method of decomposing a signal, amplifying the separate signals, and then combining the signals with Chireix style combiner, element number 100 (Paragraph 35). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to use a Chireix style combiner as taught by Saed in the modified system of Kim et al. and Raab in order to incorporate that specific combiner into the method.

With respect to claim 16, the modified system of Kim et al. and Raab is described above in the discussion of claim 14. Kim et al. do not expressly disclose a Chireix style combiner. However, Saed discloses a method of decomposing a signal, amplifying the separate signals, and then combining the signals with Chireix style combiner, element number 100 (Paragraph 35). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to use a Chireix style combiner as taught

by Saed in the modified system of Kim et al. and Raab in order to incorporate that specific combiner into the method.

With respect to claim 20, the modified system of Kim et al. and Raab is described above in the discussion of claim 18. Kim et al. do not expressly disclose a Chireix style combiner. However, Saed discloses a method of decomposing a signal, amplifying the separate signals, and then combining the signals with Chireix style combiner, element number 100 (Paragraph 35). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to use a Chireix style combiner as taught by Saed in the modified system of Kim et al. and Raab in order to incorporate that specific combiner into the method.

With respect to claim 24, the modified system of Kim et al. and Raab is described above in the discussion of claim 22. Kim et al. do not expressly disclose a Chireix style combiner. However, Saed discloses a method of decomposing a signal, amplifying the separate signals, and then combining the signals with Chireix style combiner, element number 100 (Paragraph 35). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to use a Chireix style combiner as taught by Saed in the modified system of Kim et al. and Raab in order to incorporate that specific combiner into the method.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adeel Haroon whose telephone number is (571) 272-7405. The examiner can normally be reached on Monday thru Friday, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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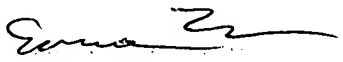

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